

The role of idiosyncratic attribute evaluation in mass customization

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Abstract

The growing use of mass customization necessitates an understanding of consumers' evaluations of mass customization platforms. We hypothesize that consumers' objective and subjective knowledge of the customized product moderate the influence of idiosyncratically evaluated (i.e., personalizable) attributes on satisfaction with a customization platform. Consistent with our theoretical framework, results from three experiments show that offering greater variety in idiosyncratically evaluated attribute options increases consumers' satisfaction to a greater extent for: (1) novices than experts (2) consumers with more subjective knowledge, and (3) miscalibrated consumers whose subjective knowledge does not match their objective knowledge, than calibrated consumers whose subjective and objective knowledge match.

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In today's environment, it is becoming important to market products and services to small niche segments, extending even to customization to suit individual consumers (Hart, 1995), as the contexts of computers (www.dell.com), motorcycles (www.vtx.honda.com), cars (www.scion.com), specialty chemicals (www.chemstation.com), candy (www.mymms.com), and postage stamps (www.stamps.com) clearly demonstrate. Yet, despite extensive study of the production aspects of mass customization (e.g., Jiao, Ma, & Tseng, 2003; Tu, Vondermbse, & Ragu-Nathan, 2001), only recently have scholars begun to examine mass customization from a consumer perspective (Murthi & Sarkar, 2003; Simonson, 2005; Wind & Rangaswamy, 2001). A mass customization platform (hereafter referred to as MCP) is distinctive not because it offers the "best" option of each attribute but because it enables consumers to select the options they prefer (e.g., pick a color or design of a shoe from options of colors and designs provided). Therefore, a useful place to start an investigation of an MCP is its ability to offer consumers different

options among various attributes, from which consumers select their preferred option, and thereby, customize the product according to their own preferences.

In this research we investigate the effect of offering varying number of options of attributes (e.g., five versus ten color options) on consumer satisfaction with an MCP. We consider two potential influences: the extent and type of knowledge of the product that consumers possess, and the manner in which consumers evaluate the attributes. Consumer knowledge is either objective, which indicates how much consumers actually know, or subjective, which indicates how much they think they know (e.g., Alba & Hutchinson, 2000). These two types of knowledge have important differential effects on consumers' satisfaction with MCPs. In addition to the notion of standardized and personalized products (Duray & Milligan, 1999), we classify product attributes according to how idiosyncratic or "personalizable" they are for consumers. That is, we classify product attributes in our research, not on the basis of their specific characteristics but on how consumers evaluate them. We distinguish between shared-preference and idiosyncratic-preference attributes, which we consider to be similar to the universal and variable qualities of individuals (Sherman, Chassin, Presson, & Agostinelli, 1984).

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Shared-preference attributes (hereafter referred to as SPAs), such as battery life in cell phones, have a widely accepted or shared evaluation scheme, whereas the evaluation schemes for idiosyncratic-preference attributes (hereafter referred to as IPAs) such as the exterior color of cell phones, are idiosyncratic.

We propose that due to the unique evaluation scheme for IPAs, the satisfaction derived from increasing the number of options of such attributes is conditioned on the knowledge of the consumer. We posit that objective and subjective forms of knowledge result in distinct effects (Brucks, 1985); specifically, increasing the number of options of IPAs would have a greater influence on satisfaction with the MCP among consumers as objective knowledge decreases, or subjective knowledge increases. We further argue that these results will hold only for miscalibrated consumers (Alba & Hutchinson, 2000), who are high on one knowledge construct and low on the other knowledge construct. We report results from three experiments to support these theoretical assertions.

Our research augments the existing literature by revealing (1) how various distinctive features of an MCP influence consumer satisfaction with the MCP and (2) how consumers' objective and subjective knowledge of the product category moderate the effects of MCP features on satisfaction with the MCP. We identify important influences of objective and subjective knowledge, which in turn offer managerial insights concerning segmenting consumers (e.g., experts versus novices) and designing MCPs that will optimize the variety of offerings to enhance consumer satisfaction. We also adapt some constructs from social psychology and apply them to the product domain by classifying attributes as SPA or IPA, and demonstrate the applicability of this classification in a few product categories.

Theoretical background

Mass customization

Mass customization refers to the “ability to quickly design, produce, and deliver products that meet specific customer needs at close to mass-production prices” (Tu et al., 2001, p. 203), with the objective of offering superior consumer value (Pine & Gilmore, 2000). This broad definition encompasses several types of mass customization, including assembly customization, the focus of this study. Assembly customization offers options of attributes of a product that consumers may configure to create their own co-designed or co-created product. The key benefit of assembly customization is that for select product attributes, consumers may choose the option that is most appealing and satisfying to them (MacDuffie, Sethuraman, & Fisher, 1996). Yet despite their promise, many MCPs fail to deliver substantial benefits, either to firms or to consumers (Huffman & Kahn, 1998; Wind & Rangaswamy, 2001). We reason that a consumer's satisfaction with an assembly customization may depend on the number of options of product attributes offered by the customization platform (even if the range of options for other attributes remains constant).

Satisfaction with a mass customization platform

Consumer satisfaction increases when the set of options provided are sufficiently varied, because greater variety increases the likelihood that the consumer will find what he or she wants (Huffman & Kahn, 1998; Kahn, 1998). However, too much variety can seem “monumental and frustrating” (Kahn, 1998, p.48) and cause confusion and information overload (Huffman & Kahn, 1998; Lee & Lee, 2004). Thus, it is important that the variety be “just right” to maximize consumer satisfaction with the options of attributes available in an MCP.

In addition to variety, personal relevance is critical (Coulter, Price, & Feick, 2003; Petty, Cacioppo, & Schumann, 1983). If the available product options match the consumer's personal goals and values, the consumer feels highly involved, which in turn activates a motivational state that “energizes” search and shopping behaviors and cognitive actions, such as attention and comprehension (Celsi & Olson, 1988). An energized motivational state is also likely to make the consumer feel more satisfied with the options provided than a less motivated consumer would. Therefore, we conceptualize satisfaction with the customization platform as the contentment experienced by consumers on the basis of how well the options offered by a customization platform satisfy the “just right” criterion of variety (e.g., Zhang & Fitzsimons, 1999) and how personally relevant those options are. Consistent with these assertions, we measured satisfaction by asking participants to respond to three items (“The set of available options gives me sufficient variety,” “With the available options, there were enough products that I could consider buying,” and “The range of options offered is appropriate for me,”) anchored by 1 = “completely disagree” and 7 = “completely agree.” We added a fourth item to this scale (“I was satisfied with the options offered for each attribute.”) in Experiment 3.

Shared-preference and idiosyncratic-preference attributes

According to Sherman et al. (1984), universally evaluated qualities are those for which “all judges (regardless of their own position on the quality) will agree on which levels of the quality are good to have and which levels are bad” (p. 1245). For example, being brave (not being brave) is considered good (bad) universally regardless of whether the judge is brave or not. In contrast, variably evaluated qualities are those for which “different judges disagree about which end of the quality is good and which is bad. In addition, attitudes toward these different levels of the quality depend on the judge's own position on that quality” (Sherman et al., 1984, p.1245). For example, supporters of capital punishment evaluate it as good, whereas non-supporters evaluate it as bad. Thus, as per Sherman et al. (1984) classification, universal qualities are those for which preferences are shared while variable qualities are those for which preferences are idiosyncratic. Although preferences can refer to a specific local state (e.g., choosing A over B) and can be argued to be largely constructed, the current use of the term preference refers to a global, stable state or disposition that is inherent to individuals (Simonson, 2008).

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